

IN THE CLAIMS:

The following is a complete listing of the claims, and replaces all earlier version and listings.

1. (Currently Amended) An energization processing apparatus for performing, in a reduced-pressure atmosphere, an energization process on electric conductors which are placed on a substrate, comprising:

a vessel which has an exhaust hole and which covers the electric conductors and a part of one region on a surface of the substrate where the electric conductors are placed, to create an airtight atmosphere between the substrate and the vessel, wherein a further region on the surface of the substrate is located outside of the vessel, and wherein the one region is under reduced-pressure atmosphere and the further region is under atmospheric air,

a first temperature adjusting mechanism for adjusting temperature of an area of the part of the substrate inside the vessel generating a heat quantity per unit area to adjust a temperature of the one region; and

a second temperature adjusting mechanism for adjusting temperature of an area of the substrate outside the vessel, generating a heat quantity per unit area, which is different from the heat quantity per unit area generated by the second temperature adjusting mechanism, to adjust a temperature of the further region

wherein a temperature of the second temperature adjusting mechanism is higher than that of the first temperature adjusting mechanism.

2. (Canceled)

3. (Currently Amended) An energization processing method for performing, in a reduced-pressure atmosphere, an energization process on electric conductors which are placed on a substrate, comprising the steps of:

covering the electric conductors and a part of one region on a surface of the substrate where the electric conductors are placed with a vessel which has an exhaust hole, to create an airtight atmosphere between the substrate and the vessel, ~~wherein a further region on the surface of the substrate is located outside of the vessel;~~

reducing a pressure of the airtight atmosphere, ~~wherein the one region is under reduced-pressure atmosphere and the further region is under atmospheric air; and~~

heating an area of the part of the substrate inside the vessel by a first temperature adjusting mechanism, and an area of the substrate outside the vessel by a second temperature adjusting mechanism, wherein a temperature of the second temperature adjusting mechanism is higher than that of the first temperature adjusting mechanism. ~~the one region with a smaller heat quantity per unit area while heating the further region with a~~

~~larger heat quantity per unit area so as to suppress a temperature difference between the one region and the further region.~~

4. (Canceled)

5. (Canceled)

6. (Canceled)

7. (Canceled)

8. (New) An electron source manufacturing method by energizing, in a reduced-pressure atmosphere, electric conductors which are placed on a substrate to form electron-emitting regions in the electric conductors, comprising steps of:

covering the electric conductors and a part of a surface of the substrate where the electric conductors are placed with a vessel which has an exhaust hole, to create an airtight atmosphere between the substrate and the vessel;

reducing a pressure of the airtight atmosphere; and

heating an area of the part of the substrate inside the vessel by a first temperature adjusting mechanism, and an area of the substrate outside the vessel by a second temperature adjusting mechanism, wherein a temperature of the second temperature adjusting mechanism is higher than that of the first temperature adjusting mechanism, and energizing the electric conductors.